

# Unit 4 Review

Name \_\_\_\_\_

## Vocabulary Review

Use the terms in the box to complete the sentences.

conservation  
consumer  
ecosystem  
endangered  
species  
habitat  
niche  
population  
producer

- All of the leopard frogs that live in a pond make up a(n) population.
- A community of organisms and the physical environment in which they live is called a(n) ecosystem.
- The use of less of something to make its supply last longer is called conservation.
- A place in the environment that meets the need of an organism is called a(n) habitat.
- An organism that makes its own food is called a(n) producer.
- Organisms whose whole kind is at risk of dying out are called endangered species.
- An organism's role in its habitat is known as its niche.
- An animal that eats plants or other animals to get energy is called a(n) consumer.

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## Item Analysis

Items	Depth of Knowledge	Cognitive Complexity
1–8	1	Low

# Unit Review

## Answer Key

### Vocabulary Review (3 points each)

- population**  
Refer students to Lesson 1, where they can review the differences between populations and communities.
- ecosystem**  
Review with students the differences between populations, communities, and ecosystems in Lesson 1.
- conservation**  
Have volunteers describe ways that they help conserve resources, either at home or at school.
- habitat**  
Compare and contrast habitats and niches. Refer students to Lesson 1 for more help.
- producer**  
Remind students that producers are at the base of all food chains.
- endangered species**  
Emphasize that organisms are adapted to their environments. Changes in environments can threaten the existence of living things.
- niche**  
Remind students that a niche describes how a living thing interacts with its habitat, including how the living thing gets food and shelter.
- consumer**  
Emphasize that consumers cannot make their own food. Contrast this with producers, which do make their own food, most often using energy from the sun.

## Assessment

### Unit 4 Test and Performance Assessment

See Assessment Guide, pp. AG 44–AG 50, for Unit Test and Performance Task with Long Option rubric.



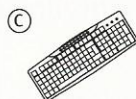
## Science Concepts

Fill in the letter of the choice that best answers the question.

9. Many household items are made from renewable resources. Which of these objects is made from a renewable resource?



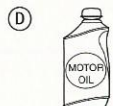
plastic bag



computer keyboard



wooden spoon



motor oil

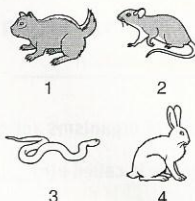
10. Tony is studying the natural resources that supply water to his home. He traces the water from a mountain, through several small rivers, and to the large river that supplies his town with water. What is Tony studying?

- (A) an ecosystem
- (B) a habitat
- (C) a niche
- (D) a watershed

11. Carla wants to show how living things get energy. Which sequence is correct?

- (A) Decomposer → Consumer → Sunlight → Producer
- (B) Consumer → Sunlight → Producer → Decomposer
- (C) Producer → Decomposer → Producer → Consumer
- (D) Sunlight → Producer → Consumer → Decomposer

12. The picture below shows some animals you can find in grassland food chains.



Which animal is the carnivore?

- (A) animal 1
- (B) animal 2
- (C) animal 3
- (D) animal 4

13. Mica is identifying natural resources used to produce many of the items he uses every day. He has identified the source of paper and wood furniture. Which natural resource has he identified?

- (A) water
- (B) forest
- (C) animals
- (D) energy resources

## Item Analysis (continued)

Items	Depth of Knowledge	Cognitive Complexity
9–10	2	Moderate
11–14	3	High
15	2	Moderate



Name \_\_\_\_\_

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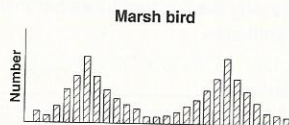
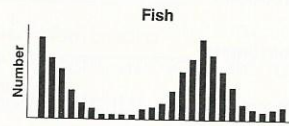
14. The table below shows how long it takes for some biodegradable items to decompose in salt water.

Item	Decomposition time
Cardboard box	2 months
Newspaper	6 weeks
Paper towel	2–4 weeks
Waxed milk carton	3 months

Which item will decompose the fastest?

- (A) newspaper  
(B) paper towel  
(C) cardboard box  
(D) waxed milk carton
15. It takes a long time for rocks to form. Limestone is a type of rock used in buildings and in road construction. Which type of resource is limestone?
- (A) green  
(B) energy  
(C) renewable  
(D) nonrenewable
16. A new highway is planned to replace a pond habitat where a frog population lives. How will this change **most likely** affect the frog population?
- (A) The frog population will double.  
(B) The frog population will increase.  
(C) The frog population will decrease.  
(D) The frog population will not change.

17. Emily is studying animals that live in marshes. She makes the following graphs to show how the number of fish and marsh birds changed in a certain area over time.



What **most likely** happened when the number of fish was highest?

- (A) The bird population began to decrease.  
(B) The birds moved away for lack of food.  
(C) The fish population continued to increase.  
(D) The bird population increased because there was more food.
18. People use land resources to help them meet their needs. Coal is a fossil fuel that people mine from the land. They burn coal to make electricity. Which type of resource is coal?
- (A) a green living resource  
(B) a green energy resource  
(C) a renewable energy resource  
(D) a nonrenewable energy resource

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## Unit Review *continued*

### Answer Key

#### Science Concepts (5 points each)

16. C

Have a volunteer identify the human act in the question. Discuss with students how this act might affect a pond ecosystem.

17. D

Students can read about the effects that populations of different organisms have on one another in Lesson 2.

18. D

Help students compare and contrast the types of resources discussed in Lesson 4.

### Short Option Performance Assessment

#### Task

##### Diagram a Food Web

Have student pairs choose an animal that they know well. Instruct them to draw a food web that includes the animal. The web should include at least two food chains. Each chain should include at least three organisms. Students should label each living thing in the web as a producer, consumer, or decomposer, and, as appropriate, predator or prey.

#### Rubric

**Preparation** Provide each pair with a large sheet of paper and markers or crayons. Encourage partners to work together to choose an animal that is familiar to both of them. They might make notes about the animal before they begin drawing.

##### Scoring Rubric—Performance Indicators

- \_\_\_ Identifies two or more food chains that include the chosen animal.
- \_\_\_ Shows at least three living things in each food chain.
- \_\_\_ Labels each living thing correctly.
- \_\_\_ Indicates how the food chains overlap to form a food web.

##### Observations and Rubric Scores

3 2 1 0

### Item Analysis *(continued)*

Items	Depth of Knowledge	Cognitive Complexity
16–17	3	High
18	2	Moderate



continued

## Review the Big Idea

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## Apply Inquiry and Review the Big Idea

Write the answers to these questions.

19. This illustration shows a food web.

- a. Identify the organisms shown in the food web as producers, consumers, or decomposers.

Producers: grasses

Consumers: cricket, robin, hawk, rabbit, toad

Decomposers: fungi

- b. Classify the consumers as herbivores, omnivores, or carnivores.

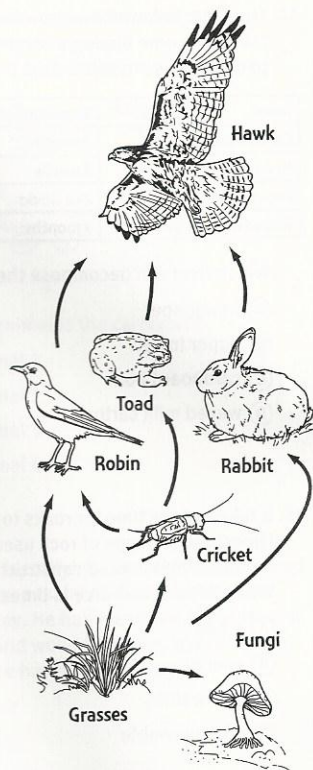
Herbivores: cricket, rabbit

Omnivores: robin

Carnivores: toad, hawk

- c. Explain why all animals depend on producers such as plants. Use an example from the food web in your explanation.

Sample answer: In this food web, the cricket eats plants, and the toad eats crickets. If there were no plants, there would be no food for crickets. As a result, there would be no food for the toads. So, the toads depend on plants to start the energy moving through the food chain.



20. Juan studied this food web and said that hawks were the last link in every food chain shown. Vicky pointed to a different organism and said that it was the last link. Which organism did Vicky identify? What was her reasoning?

Sample answer: Vicky identified the fungi as the last link in all food chains shown on this food web. Decomposers, such as fungi and bacteria, break down the wastes and dead bodies of plants and animals. Because all organisms eventually are broken down in this way, it is reasonable to say that decomposers are the last link in all the food chains.

## Item Analysis

Items	Depth of Knowledge	Cognitive Complexity
19a–19b	2	Moderate
19c	3	High
20	4	High